



# UNSW Engineering

## Bachelor of Engineering (Honours) (Petroleum Engineering)

### What do petroleum engineers do?

Petroleum Engineers work with energy companies to design, test and implement efficient methods to extract petroleum or natural gases from the earth and sea floor or store carbon-dioxide or hydrogen in underground formations.

In this career you'll apply chemistry, physics, geology, mathematics, and economics to the discovery, development, production and storage of energy and material resources. The knowledge you acquire in this degree can also be applied to carbon geological sequestration and geothermal resources engineering.

### What will your study involve?

This degree will prepare you for a career in the geoenery industries. This degree has a strong focus on the environment, demonstrating how we can meet global energy needs in a long-term, sustainable manner including the conversion of depleted oil and gas reservoirs

into geostorage facilities. You'll examine various processes used in the geoenery industry in an efficient, safe and environmentally responsible way. Learn how to apply practical science and engineering principles to identify and solve challenges associated with exploration, extraction, production and storage of energy resources.

### UNSW Minerals and Energy Resources Engineering

- We're amongst UNSW's top ranked subjects - 17th globally for Petroleum Engineering (QS Subject Rankings 2022)
- We have strong relationships with Australia's minerals, oil and gas industry through sponsored scholarships and work experience programs.
- UNSW is at the forefront of petroleum education & research including space resources engineering, low emission technologies, CO2 storage and geothermal energy, with 30 years of research, development, and education experience.
- Study in our controlled mine environment, geomechanics, mineral processing, ventilation, and petrophysics laboratories, VR/AR simulators, drilling simulator, X-ray CT facility, and more.

### Program details

**Lowest Selection Rank (2022):** 90

**Duration:** Four-year embedded honours degree

**Study areas:** Computer Modelling and Simulation of Oil and Gas Resources, Drilling Engineering, Formation Evaluation, Integrated Field Development, Natural Gas Engineering, Petroleum Geology and Geostatistics, Petroleum Economics, Reservoir Engineering

**Assumed knowledge:** HSC level Mathematics Extension 1, Physics

**Alternative Entry:** UNSW offers the Faculty of Engineering Admission Scheme (FEAS) which is a pathway for students interested in studying undergraduate engineering to support their academic results, find out more at [unsw.to/feas](https://unsw.to/feas)

### Accreditation

Your Bachelor of Engineering (Honours) degree is recognised globally, is accredited with Engineers Australia, and is also acknowledged by the Washington Accord, which lets you work in over 20 countries across the globe upon graduation.

### Career options

You can work in the oil and gas industry, oil service companies, reservoir development, computer-generated modelling, environmental organisations, as well as banking and finance.

### Student Testimonials

"I'd love to work in both the office and the field; from offshore to onshore; from conventional to unconventional. It would be great if I can work in Australia, but I will be able to work all around the world without having to re-qualify. Plus the petroleum industry also underpins many other industries."

**Vinh Troung,**  
**Petroleum Engineering**



### Example study plan

	TERM 1			TERM 2			TERM 3		
YEAR 1	Introduction to Engineering Design & Innovation	Computing for Engineers	Mathematics 1A	Mathematics 1B	Engineering Materials and Chem	Physics 1A	L1 Elective	L1 Elective	
YEAR 2	Fluid and Particle Mechanics	General Education	Reservoir Engineering A	Petrophysics	Reservoir Engineering B	Petroleum Geophysics	Engineering Mathematics 2E	Business Practices – Petroleum Eng	
YEAR 3	Well Drilling Equip and Operations	Petroleum Economics		Field Development Geology	Reservoir Characterisation and Geophysics	Discipline Elective	Numerical Reservoir Simulation	Engineering Design and Professional Practice	Well Pressure Testing
YEAR 4	Enhanced Oil & Gas Recovery	Natural Gas Engineering	Thesis A	Well Technology	Petroleum Production Engineering	Thesis B	General Education	Discipline Elective	Thesis C

You'll be required to complete 60 days of Industrial Training throughout your degree.

This is a sample degree outline only and may be subject to change. Please refer to the UNSW Handbook for further information and relevant course codes.